

2009

# Evidence Code Section 802: The Neglected Key to Rationalizing the California Law of Expert Testimony

David L. Faigman

*UC Hastings College of the Law*, [faigmand@uchastings.edu](mailto:faigmand@uchastings.edu)

Edward J. Imwinkelried

Follow this and additional works at: [https://repository.uchastings.edu/faculty\\_scholarship](https://repository.uchastings.edu/faculty_scholarship)



Part of the [Evidence Commons](#)

---

## Recommended Citation

David L. Faigman and Edward J. Imwinkelried, *Evidence Code Section 802: The Neglected Key to Rationalizing the California Law of Expert Testimony*, 42 *Loy. L.A. L. Rev.* 427 (2009).

Available at: [https://repository.uchastings.edu/faculty\\_scholarship/142](https://repository.uchastings.edu/faculty_scholarship/142)

This Article is brought to you for free and open access by UC Hastings Scholarship Repository. It has been accepted for inclusion in Faculty Scholarship by an authorized administrator of UC Hastings Scholarship Repository. For more information, please contact [wangangela@uchastings.edu](mailto:wangangela@uchastings.edu).



## **Faculty Publications**

### **UC Hastings College of the Law Library**

**Author:** David L. Faigman

**Source:** Loyola of Los Angeles Law Review

**Citation:** 42 Loy. L.A. L. Rev. 427 (2009).

**Title:** *Evidence Code Section 802: The Neglected Key to Rationalizing the California Law of Expert Testimony*

Originally published in LOYOLA OF LOS ANGELES LAW REVIEW. This article is reprinted with permission from LOYOLA OF LOS ANGELES LAW REVIEW and Loyola Law School.

# EVIDENCE CODE SECTION 802: THE NEGLECTED KEY TO RATIONALIZING THE CALIFORNIA LAW OF EXPERT TESTIMONY\*

*Edward J. Imwinkelried\*\* & David L. Faigman\*\*\**

*The recent Lockheed Litigation Cases presented the California Supreme Court with an opportunity to clarify the law of expert testimony in that jurisdiction. Unfortunately, although the cases were pending before the court for several years, the court ultimately dismissed the case without reaching the merits. One of the important questions presented was whether California courts may enforce uncodified restrictions on the admissibility of expert testimony. In the past, courts have sometimes imposed such limitations without squaring the limitations with the statutory scheme of the California Evidence Code. This Article argues that some of those limitations were sensible, sound restrictions. More importantly, this Article contends that the reference to "law" in California Evidence Code section 802 empowers the state's judiciary to enunciate and enforce decisional restrictions. So construed, section 802 can serve as the basis for rationalizing the law of expert testimony in California.*

California courts probably rely on expert testimony to a greater extent than any other jurisdiction. In a study supported by the Rand Corporation, researchers found that 86 percent of the civil trials conducted in California Superior Courts involved expert testimony.<sup>1</sup> On average, there were 3.3 experts per trial.<sup>2</sup>

---

\* This Article is based in part on the authors' amicus brief in *In re Lockheed Litig. Cases*, 23 Cal. Rptr. 3d 762 (Ct. App. 2005), *petition for review granted*, 110 P.3d 289 (Cal. 2005), *petition for review dismissed*, 83 Cal. Rptr. 3d 478 (2007).

\*\* Edward J. Imwinkelried is the Edward L. Barrett, Jr., Professor of Law, University of California, Davis, School of Law.

\*\*\* David L. Faigman is the John J. Digardi, Distinguished Professor of Law, University of California, Hastings College of Law.

1. Samuel R. Gross, *Expert Evidence*, 1991 WIS. L. REV. 1113, 1119.

2. *Id.*

A recent line of California expert testimony cases, *In re Lockheed Litigation Cases*,<sup>3</sup> attracted special attention from both the legal community and the media.<sup>4</sup> In the coordinated *Lockheed* actions, the plaintiffs were former and current employees of Lockheed who claimed that their illnesses were caused by toxic chemicals they were exposed to while employed by Lockheed.<sup>5</sup> In order to establish general causation, plaintiffs offered both epidemiological and animal studies.<sup>6</sup> The trial judge, however, excluded the testimony about the studies.<sup>7</sup>

The trial judge barred the epidemiological testimony offered by Dr. Daniel Teitelbaum on two grounds: (1) the study he submitted did not yield a relative risk exceeding 2.0<sup>8</sup> and (2) the study involved multiple solvents, including some that the plaintiffs had not been exposed to.<sup>9</sup> The epidemiological study also did not investigate whether exposure to only the chemicals the plaintiffs had come in contact with would increase the incidence of illness.<sup>10</sup>

In addition, the trial judge barred the animal studies testimony.<sup>11</sup> The judge faulted that testimony because the plaintiffs' expert failed to explain why an extrapolation to human beings was warranted despite the obvious differences in species and dosage.<sup>12</sup>

The California Court of Appeal affirmed the trial judge's exclusion of testimony regarding both studies.<sup>13</sup> Yet, while the appellate court concurred with the trial judge's reasoning about the animal studies,<sup>14</sup> the court disagreed with the trial judge's categorical position that an epidemiological study falling short of the 2.0 threshold is automatically inadmissible.<sup>15</sup> The appellate court

---

3. 23 Cal. Rptr. 3d 762 (Ct. App. 2005), *petition for review granted*, 110 P.3d 289 (Cal. 2005), *petition for review dismissed*, 83 Cal. Rptr. 3d 478 (2007).

4. Edward J. Imwinkelried, "Daubert" Tipping Point, NAT'L L.J., July 11, 2005.

5. 23 Cal. Rptr. 3d at 765-66.

6. *Id.* at 767.

7. *Id.* at 767-69.

8. *Id.* at 775. "A relative risk of 2.0 indicates that the disease was twice as common in the exposed subjects as in the unexposed subjects." *Id.*

9. *Id.* at 774.

10. *Id.*

11. *Id.* at 767-69, 779.

12. *Id.* at 779.

13. *Id.* at 763.

14. *Id.* at 779-80.

15. *Id.* at 774-75.

advanced the position that an epidemiological study yielding a lower relative risk could be admissible and that in combination with other evidence, the study could be legally sufficient to support a finding of general causation.<sup>16</sup> However, the court concluded that the trial judge's error was harmless.<sup>17</sup> Instead, the court ruled that the exclusion of the evidence was justifiable on the alternative ground that the study involved solvents to which the plaintiffs had not been exposed.<sup>18</sup>

The plaintiffs sought review by the California Supreme Court.<sup>19</sup> In their brief submitted to the court, the appellant-plaintiffs asserted:

In California, the basic requirements for admissibility of [non-instrumental] expert opinion testimony . . . are: (1) the witness must be qualified as an expert on the subject matter (Evid. Code § 720); (2) the subject [matter] must be "sufficiently beyond common experience that the opinion of an expert would assist the trier of fact" (Evid. Code § 801, subd. (a)); and (3) the expert's opinion must be "[b]ased on matter . . . that is *of a type* that reasonably may be relied upon by an expert in forming an opinion upon the subject matter to which his testimony relates, unless an expert is precluded by law from using such matter as a basis for his opinion." (Evid. Code § 801, subd. (b), *italics added*).

There are no other requirements of the evidence code for expert testimony.<sup>20</sup>

The appellants argued that the trial judge erred in conducting a more extensive substantive review of the expert's underlying reasoning.<sup>21</sup> More specifically, the appellants contended that

---

16. See *id.* at 775, 777 (the court "express[ed] no opinion as to whether an expert opinion based solely on an epidemiological study showing relative risk of less than 2.0 can be sufficient to support a finding of causation," but referred to case law that "supports the proposition that an epidemiological study showing a relative risk of less 2.0 can play a part in providing reasonable basis for an opinion of causation when considered together with other matters."). See also *In re Lockheed Litig. Cases*, 126 Cal. App. 4th 271, 291.

17. *In re Lockheed Litig. Cases*, 23 Cal. Rptr. 3d at 774.

18. *Id.*

19. *In re Lockheed Litig. Cases*, 110 P.3d 289 (Cal. 2005).

20. Opening Brief of Appellants at 22–23, *Aguilar v. Exxon Mobil Corp., Lockheed Litig. Cases*, 110 P.3d 289 (Cal. 2005) (No. B166347), 2005 WL 1871874.

21. *Id.* at 22.

although under Evidence Code section 801(b) a California trial judge may determine whether the proposed expert is relying on a proper “type” of information, the judge may not inquire whether, cumulatively, the foundational matters cited by the expert are sufficient to support his or her opinion.<sup>22</sup> Thus, the case raised a critical, unsettled issue about the scope of a trial judge’s substantive review of the reasoning underlying proffered expert opinions.

In a stunning turn of events in 2007, the Court dismissed review after the case had been pending before the California Supreme Court for two years.<sup>23</sup> The apparent explanation is that a majority of members of the court had stock holdings that they believed required them to recuse themselves from the case.<sup>24</sup> The justices could have designated pro tem judges to fill out the panel to decide the case, but they chose not to exercise that option.<sup>25</sup> However, the upshot is that the disposition of the case left this vital evidentiary issue unresolved.

The purpose of this Article is to address this evidentiary issue and suggest that California Evidence Code section 802 authorizes the California Supreme Court to empower trial judges to conduct the type of substantive review that the trial judge undertook in *Lockheed*. Part I of this Article demonstrates that the California Supreme Court has enunciated non-statutory restrictions on the admission of expert testimony in the past. Part II argues that under Evidence Code section 802, California courts formally have this authority. Finally, Part III contends that the California Supreme Court should exercise this authority by expressly empowering trial judges to conduct a substantive review of a proffered expert’s underlying reasoning.

#### I. THE CALIFORNIA SUPREME COURT HAS PREVIOUSLY ANNOUNCED NON-STATUTORY RESTRICTIONS ON THE ADMISSIBILITY OF EXPERT TESTIMONY

In 1923, the District of Columbia Circuit Court rendered its decision in *Frye v. United States*.<sup>26</sup> *Frye* declared that an expert’s underlying theory or technique must be generally accepted “in the

---

22. *Id.* at 23–25.

23. *In re Lockheed Litig.* Cases, 83 Cal. Rptr. 3d 478 (2007).

24. Mike McKee, *Lockheed Case Ends Abruptly*, RECORDER, Nov. 5, 2007, available at <http://www.callaw.com>.

25. *Id.*

26. 293 F. 1013 (D.C. Cir. 1923).

particular field in which it belongs” to serve as a basis for admissible expert testimony.<sup>27</sup> The California Supreme Court initially embraced this general-acceptance standard in 1976 in *People v. Kelly*.<sup>28</sup> The case involved the instrumental scientific technique of sound spectrography, otherwise known as voiceprint.<sup>29</sup> The court subjected the technique to the *Frye* test, even though the Evidence Code did not contain any language codifying a general-acceptance standard.<sup>30</sup>

In its celebrated 1993 decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,<sup>31</sup> the U.S. Supreme Court found that the Federal Rules of Evidence had not incorporated the *Frye* standard and instead adopted a validity test based on its interpretation of rule 702.<sup>32</sup> In 1994 in *People v. Leahy*,<sup>33</sup> the California Supreme Court had occasion to decide whether it would follow the U.S. Supreme Court’s lead and move away from the general-acceptance standard. Instead, the California court reaffirmed *Kelly/Frye* by ruling that when the proponent of the expert testimony proffers novel, purportedly scientific expert testimony, the proponent must establish that the expert’s underlying theory or technique is generally accepted.<sup>34</sup>

In 1998, in *People v. Venegas*,<sup>35</sup> the California Supreme Court further elaborated on *Leahy*.<sup>36</sup> The *Venegas* court made it clear that the proponent must also ordinarily show that the expert used acceptable procedures in applying the theory or technique to the facts of the pending case.<sup>37</sup> The court stated that the proffered expert testimony must satisfy a test with several prongs.<sup>38</sup> One prong—the classic *Frye* standard—requires the proponent to establish the reliability of the expert’s general theory or technique by proving its

---

27. *Id.* at 1014.

28. 549 P.2d 1240, 1244–45 (Cal. 1976).

29. *Id.* at 1242–43.

30. *Id.* at 1244.

31. 509 U.S. 579 (1993).

32. *Id.* at 587, 592–95.

33. 882 P.2d 321 (Cal. 1994).

34. *Id.* at 337.

35. 954 P.2d 525 (Cal. 1998).

36. *Id.* at 542 n.30, 549.

37. *Id.* at 547.

38. *Id.* at 545.

general acceptance.<sup>39</sup> A separate prong mandates proof that the expert employed proper “procedures . . . in the case at hand.”<sup>40</sup>

If the appellants’ position in *Lockheed* was correct, the California Supreme Court would have to overrule *Venegas*. In the case of instrumental scientific techniques, like the use of DNA evidence, the trial judge must venture beyond a showing that the expert is relying on a recognized type of study or technique in order to evaluate the second prong from *Venegas*.<sup>41</sup> The California Evidence Code is devoid of any language incorporating such a requirement.<sup>42</sup> On their face, the provisions of the California Evidence Code make no distinction between instrumental and non-instrumental scientific techniques such as those employed by psychiatrists and social scientists.<sup>43</sup> If the Evidence Code forbids any judicial inquiry beyond the general type of information relied on, then that inquiry must also be barred in the case of techniques such as DNA typing.<sup>44</sup>

Admittedly, decisions such as *Venegas* venture beyond the requirements expressly set out in the California Evidence Code. However, the thesis of this Article is that such decisions are justifiable. As Parts II and III demonstrate, the key to rationalizing such decisions is California Evidence Code section 802.

Parts II and III explain that whenever an expert attempts to evaluate the facts of a pending case, he or she explicitly or implicitly applies a major premise, that is, a general theory or technique. Section 802 of the California Evidence Code empowers the California courts to announce restrictions on an expert’s major premise.<sup>45</sup> In the past, the California Supreme Court has exercised that power by prescribing the general acceptance test for purportedly

---

39. *Id.* at 545–46.

40. *Id.* at 547.

41. *See id.*

42. *See* CAL. EVID. CODE § 720, 801–802 (West 1995).

43. *See id.*

44. Edward J. Imwinkelried, *Trial Judges—Gatekeepers or Usurpers? Can the Trial Judge Critically Assess the Admissibility of Expert Testimony Without Invading the Jury’s Province to Evaluate the Credibility and Weight of the Testimony?*, 84 MARQ. L. REV. 1, 15–16 (2000).

45. *See* discussion *infra* Part II.B (stating that the text, context, legislative history, and maxims of interpretation support the idea that under section 802, a court is empowered to prescribe these restrictions).



scientific expert testimony, as it did in *Leahy*.<sup>46</sup> While the court has not extended *Kelly/Frye*'s general acceptance test to non-scientific expertise, the court ought to impose sensible restrictions on the theories and methodologies underlying that type of expertise to protect the reliability of the fact-finding process. In the past, California courts have asserted the authority to exclude speculative, conjectural testimony.<sup>47</sup> In the same spirit, authorizing California trial judges to inquire into whether the proponent's foundational showing adequately supports the expert's theory or methodology would be a minimal and reasonable restriction.

## II. EVIDENCE CODE SECTION 802 AND NON-STATUTORY RESTRICTIONS ON THE ADMISSION OF EXPERT TESTIMONY.

In the *Lockheed* case, the respondents argued that if Evidence Code sections 801 and 803 are construed together, they confer on California judges the power to exclude speculative or conjectural testimony.<sup>48</sup> The appellants naturally opposed that argument.<sup>49</sup> But neither brief relied on California Evidence Code section 802. We submit that neglecting section 802 is a grave error. Section 802 furnishes a sound, alternative route to concluding that the California Supreme Court can empower trial judges to conduct a substantive review of the reasoning underlying an expert's opinion. Tellingly, the section-802 route is more faithful to the text of the Evidence Code. To trace that route, we turn now to the fundamentals of evidentiary policy and statutory construction.

---

46. *People v. Leahy*, 882 P.2d 321, 337 (Cal. 1994).

47. *See People v. Sundlee*, 138 Cal. Rptr. 834, 837 (Ct. App. 1977) ("An expert may not base his testimony on conjecture . . .").

48. *See* Brief of Respondents at 19–31, *Aguilar v. Exxon Mobil Corp., Lockheed Litig. Cases*, 110 P.3d 289 (Cal. 2005) (No. B166347), 2005 WL 3142597; *see also Sundlee*, 138 Cal. Rptr. 834.

49. Opening Brief of Appellants, *supra* note 20.

*A. A General Overview of the Evidence Code  
Provisions on Expert Testimony*

The typical expert's testimony is syllogistic in nature.<sup>50</sup> For example, consider the testimony of a mental health expert. The expert's reasoning can be restated in syllogistic fashion:

1. I am a practicing psychiatrist.
2. As reflected in the American Psychiatric Association's Diagnostic and Statistical Manual, there are criteria for diagnosing schizophrenia, that is, symptoms A, B, and C.
3. This patient's case history includes symptoms A, B, and C.
4. Therefore, this patient is probably suffering from schizophrenia.

This model works equally well in the case of other types of expertise testimony such as instrumental DNA analysis:

1. I am a molecular biologist.
2. If the DNA fragments on two autoradiographs are in the same position and within acceptable limits of the same length, then the two samples that have been fragmented contain the same DNA markers.
3. The DNA fragments on these two autoradiographs are in the same position and within acceptable limits of the same length.
4. Therefore, the samples that were fragmented contain the same DNA markers.

After qualifying as an expert in the first sentence, the witness's remaining testimony is reducible to a syllogism. The second sentence is the expert's major premise; it represents the general theory or technique on which the expert relies. The third sentence functions as a minor premise; it specifies the case-specific information to which the expert applies the theory or technique. Finally, the fourth sentence is the expert's ultimate conclusion, yielded when the expert applies the major premise to the minor.

In terms of evidentiary policy, there is a fundamental difference between the expert's major and minor premises.<sup>51</sup> The major

---

50. Edward J. Imwinkelried, *The "Bases" of Expert Testimony: The Syllogistic Structure of Scientific Testimony*, 67 N.C. L. REV. 1, 2 (1988); Edward J. Imwinkelried, *The Educational Significance of the Syllogistic Structure of Expert Testimony*, 87 NW. U. L. REV. 1148 (1993).

premise information consists of expert generalizations, such as scientific propositions.<sup>52</sup> This is the sort of generalization that, in the past, the courts have subjected to either the *Kelly/Frye* general acceptance standard or the *Daubert* validation test.<sup>53</sup> These generalizations deserve distinctive evidentiary treatment. First, this information cannot simply be observed or perceived. Rather, these generalizations are generated in a particular way, namely, by expert methodology like controlled experiments or careful, rigorous study of naturally occurring events.<sup>54</sup> Moreover, these generalizations are propositions that “transcend[] individual cases.”<sup>55</sup>

The minor premise information is radically different from the major premise information.<sup>56</sup> This type of fact ordinarily can be observed. Indeed, at early common law the expert was required to personally observe a fact before he or she could rely on it as part of the minor premise supporting the expert’s opinion.<sup>57</sup> Further, in contrast to the substance of the major premise, the content of the minor premise frequently coincides with disputed, case-specific facts that the jury must ultimately decide—for instance, information regarding a plaintiff’s injury or the events preceding the injury.<sup>58</sup> Given the overlap, when trial judges determine the acceptability of an expert’s minor premise, they ought to confine their inquiry to whether the “type” of information the expert is relying on is acceptable. If the judge were to pass on the credibility of the specific information contained in the expert’s minor premise, the judge would be usurping the jury’s role.<sup>59</sup>

---

51. Imwinkelreid, *The “Bases” of Expert Testimony*, *supra* note 50, at 13–14.

52. *Id.* at 2.

53. See 1 DAVID L. FAIGMAN ET AL., *MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY* 1–118 (2007–2008 ed.).

54. *Id.* at 119–54.

55. David L. Faigman, *Mapping the Labyrinth of Scientific Evidence*, 46 HASTINGS L.J. 555, 573 (1995).

56. Edward J. Imwinkelried, *Developing a Coherent Theory of the Structure of Federal Rule of Evidence 703*, 47 MERCER L. REV. 447 (1996); Edward J. Imwinkelried, *The Meaning of “Facts or Data” in Federal Rule of Evidence 703: The Significance of the Supreme Court’s Decision to Rely on Federal Rule 702 in Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 54 MD. L. REV. 352, 353–54 (1995).

57. 1 JOHN W. STRONG ET AL., MCCORMICK ON EVIDENCE §§ 14–15 (5th ed. 1999).

58. Imwinkelried, *The “Bases” of Expert Testimony*, *supra* note 50, at 26.

59. See Imwinkelried, *Developing a Coherent Theory*, *supra* note 56, at 462–65.

### 1. The General Statutory Scheme Under the Federal Rules of Evidence

The federal courts have, in effect, used the syllogistic model described above to arrive at a sensible interpretive structure for Article VII of the Federal Rules of Evidence. To begin with, courts look to rule 702 to determine whether the witness qualifies as an expert. By its terms, the statute provides that the witness must be “qualified as an expert by knowledge, skill, experience, training, or education . . . .”<sup>60</sup> As we shall see later, post-*Daubert*, the federal courts also look to rule 702 to decide whether the expert’s major premise is acceptable.

In contrast, rule 703 controls the propriety of the expert’s minor premise. In pertinent part, that statute reads:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those perceived by or made known to the expert at or before the hearing. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted.<sup>61</sup>

The wording of rule 703 indicates that it applies only to the expert’s minor premise; it speaks to “[t]he facts or data in the *particular case*” that the expert is considering.<sup>62</sup> Under rule 703, the expert may rely on three different types of sources for the case-specific information in his or her minor premise: (1) personally “perceived” information (e.g., a wound observed by the testifying physician); (2) information “made known to the expert at . . . the hearing” (e.g., facts included in a hypothetical question posed to a physician testifying at trial); and (3) information “made known to the expert . . . before the hearing” when it is “reasonabl[e]” for the expert to rely on that type of information (e.g., a nurse’s report about the patient’s temperature to the physician).<sup>63</sup> Lastly, rule 704 applies to

---

60. FED. R. EVID. 702.

61. FED. R. EVID. 703.

62. *Id.* (emphasis added).

63. *Id.*

the phrasing of the expert's ultimate conclusion, partially abolishing the ultimate fact prohibition,<sup>64</sup>

In *Daubert*,<sup>65</sup> the United States Supreme Court implicitly recognized the boundary between the expert's major and minor premises.<sup>66</sup> After holding that *Frye v. United States*<sup>67</sup> is no longer good law in federal practice, the Court developed a new test.<sup>68</sup> The Court eschewed any reliance on rule 703.<sup>69</sup> Rather, the Court concluded that "[t]he primary locus of [the new standard] is Rule 702, which clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify."<sup>70</sup>

The Court's conclusion was sound as a matter of statutory interpretation. In statutory interpretation, context is key. Rule 705 supplies part of the context for rule 702. On its face, rule 705 differentiates between the "reasons" for an expert's opinion and "the underlying facts or data."<sup>71</sup> Of course, the expression "facts or data" is drawn directly from the text of rule 703.<sup>72</sup> If rule 703 governs that information (the expert's minor premise), a court must look elsewhere to decide the soundness of the "reasons" for the opinion,

---

64. FED. R. EVID. 704. Rule 704 states that:

(a) [e]xcept as provided in subdivision (b), testimony in the form of an opinion or inference otherwise admissible is not objectionable because it embraces an ultimate issue to be decided by the trier of fact.

(b) No expert witness testifying with respect to the mental state or condition of a defendant in a criminal case may state an opinion or inference as to whether the defendant did or did not have the mental state or condition constituting an element of the crime charged or of a defense thereto. Such ultimate issues are matters for the trier of fact alone.

*Id.*

65. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993) (admitting expert's opinion as reliable because it met the standards of reliability and relevance under the Federal Rules).

66. *Id.* at 589 (recognizing that there must be regulation of which subjects and theories an expert may testify).

67. *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923) (holding that expert's testimony is acceptable only if his deduction is sufficiently established enough to have gained general acceptance in the field).

68. *Daubert*, 509 U.S. at 587 (adopting the Federal Rules of Evidence test).

69. *See id.* at 586–595.

70. *Id.* at 589.

71. FED. R. EVID. 705. The text of rule 705 mandates that: "The expert may testify in terms of opinion or inference and give reasons therefor without first testifying to the underlying facts or data, unless the court requires otherwise. The expert may in any event be required to disclose the underlying facts or data on cross-examination." *Id.*

72. Fed. R. Evid. 703.

that is, the theories or techniques serving as the expert's major premise. The *Daubert* Court looked elsewhere—to rule 702—and derived a validity test from that statute.<sup>73</sup> The amended version of rule 702 makes it even clearer that one of its functions is to regulate the expert's major premise. As amended in 2000, rule 702(2) requires the proponent to establish that the expert is relying on "reliable principles and methods."<sup>74</sup>

## 2. The General Statutory Scheme Under the California Evidence Code

The California Evidence Code provisions on expert testimony reflect a similar syllogistic model. Like Federal Rule 702, Evidence Code section 720 explicitly addresses a witness's qualifications as an expert.<sup>75</sup> The Advisory Committee's note to Federal Rule 703 indicates that the federal drafters used California Evidence Code section 801(b) as the primary model for rule 703.<sup>76</sup> Indeed, the wording of the two statutes is strikingly similar. The key passage in section 801(b) uses the language, "perceived by or personally known to the witness or made known to him at or before the hearing."<sup>77</sup>

73. *Daubert*, 509 U.S. at 588–89.

74. FED. R. EVID. 702(2). Rule 702(2) mandates that:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is the product of reliable principles and methods . . . .

*Id.*

75. CAL. EVID. CODE § 720 (West 1995). Rule 720 mandates that:

(a) A person is qualified to testify as an expert if he has special knowledge, skill, experience, training, or education sufficient to qualify him as an expert on the subject to which his testimony relates. Against the objection of a party, such special knowledge, skill, experience, training, or education must be shown before the witness may testify as an expert.

(b) A witness' special knowledge, skill, experience, training, or education may be shown by any otherwise admissible evidence, including his own testimony.

*Id.*

76. FED. R. EVID. 703 advisory committee's note.

77. CAL. EVID. CODE § 801(b) (West 1995). Rule 801(b) mandates that:

If a witness is testifying as an expert, his testimony in the form of an opinion is limited to such an opinion as is:

. . . .

(b) Based on matter (including his special knowledge, skill, experience, training, and education) perceived by or personally known to the witness or made known to him at or before the hearing, whether or not admissible, that is of a type that reasonably may

That language is virtually identical to the wording of Federal Rule 703, governing the expert's minor premise.<sup>78</sup> Section 805 is the analogue to Federal Rule 704, and like Rule 704, section 805 overturns the ultimate fact prohibition on the phrasing of the expert's final opinion.<sup>79</sup> Of course, the remaining component of the expert's reasoning process is the major premise. As we shall see, section 802 authorizes a case law limitation on the major premise of a non-scientific expert.<sup>80</sup>

*B. The Specific Role of Evidence Code Section 802  
in the Statutory Scheme*

The text of California Evidence Code section 802, its context in the California Evidence Code, the related legislative history, and even maxims of interpretation support the conclusion that under section 802 a court may prescribe case law restrictions on the expert's major premise.

---

be relied upon by an expert in forming an opinion upon the subject to which his testimony relates, unless an expert is precluded by law from using such matter as a basis for his opinion.

*Id.*

78. FED. R. EVID. 703 reads:

The facts or data in the particular case upon which an expert bases an opinion or inference may be those *perceived by or made known to the expert at or before the hearing*. If of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject, the facts or data need not be admissible in evidence in order for the opinion or inference to be admitted. Facts or data that are otherwise inadmissible shall not be disclosed to the jury by the proponent of the opinion or inference unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect.

*Id.* (emphasis added).

79. CAL. EVID. CODE § 805 (West 1995). Rule 805 reads:

Testimony in the form of an opinion that is otherwise admissible is not objectionable because it embraces the ultimate issue to be decided by the trier of fact." *Id.* It was often said that the common law barred expert opinions coinciding with an ultimate issue in the case, but section 805 states that an otherwise admissible opinion "is not objectionable because it embraces the ultimate issue to be decided by the trier of fact.

*Id.*

80. See discussion *infra* Part III.A (stating that the trial judge can weigh the credibility of a non-scientific expert's testimony when determining whether an expert's major premise is admissible).

### 1. The Statutory Text

Section 802 states that an expert “testifying in the form of an opinion may state on direct examination the reasons for his opinion . . . unless he is precluded by law from using such reasons . . . as a basis for his opinion.”<sup>81</sup> The statutory text is unquestionably broad enough to support the interpretation that a court may announce non-statutory substantive restrictions, that is, the expert’s general theory or technique. The statutory term “reason” is expansive enough to include an expert theory or technique. If so, section 802 can be construed as applying to the expert’s major premise.

### 2. The Statutory Context

When interpreting any statute under California law, it is important to consider the particular provision’s statutory context. Specifically, other parts of a legislative scheme should be considered as they are the fundamental tool used to help decipher the meaning of any statute.<sup>82</sup> Here, the other statutory provisions on expert testimony point to the interpretation of section 802 as extending to the expert’s major premise. Two other statutory provisions, Evidence Code sections 801 and 160, shed important light on the meaning of section 802.<sup>83</sup>

To begin with, the wording of section 802 contrasts sharply with that of section 801. Although section 801(b) limits the judicial inquiry to the “type” of information that the expert relies on, there is no such restriction in section 802.<sup>84</sup> Moreover, while section 802 refers to “the reason” for the expert’s opinion as well as “the matter upon which [his opinion] is based,” section 801 mentions only the latter.<sup>85</sup> When a legislature uses different terms in two different statutes, the sensible assumption is that the legislature meant different things.<sup>86</sup> The “reasons” for the opinion, mentioned in section 802, must be something other than “the matter upon which [the] opinion is based,” the minor premise governed by section

---

81. CAL. EVID. CODE § 802 (West 1995).

82. *Hicks v. E.T. Legg & Assocs.*, 108 Cal. Rptr. 2d 10, 17 (Ct. App. 2001).

83. *See* CAL. EVID. CODE §§ 160, 801 (West 1995).

84. *See id.* §§ 801(b), 802.

85. *See id.* §§ 801–802.

86. *Kray Cabling Co. v. County of Contra Costa*, 46 Cal. Rptr.2d 674, 676 (Ct. App. 1995).



801(b). The stark contrast between the wording of the two statutes strongly suggests that although under section 801(b) the judge may consider only the acceptability of the generic type of information the expert relies on, the judge is not so limited under section 802.

As previously stated, it makes eminently good sense to restrict the scope of the judicial inquiry under section 801(b). In that subdivision, the language, “perceived by or personally known to the witness or made known to him at or before the hearing,” speaks to the propriety of the expert’s minor premise.<sup>87</sup> Much of the information included in the minor premise overlaps with case-specific issues that the jury must decide.<sup>88</sup> Section 801(b) restricts the extent of the judicial inquiry into the minor premise to determine whether the generic “type” of information is permissible.<sup>89</sup> If the trial judge were allowed to go further and pass on the credibility of the specific information contained in the expert’s minor premise, the judge would be intruding on the role of the petit jurors.<sup>90</sup>

Even more importantly, California Evidence Code section 160 serves as part of the context of section 802. Again, section 802 states that an expert may be “precluded by law from using . . . [a] reason[. . .] as a basis for his opinion.”<sup>91</sup> The Evidence Code sets out a statutory definition of “law” in section 160. Section 160 reads: “‘Law’ includes constitutional, statutory, and decisional law.”<sup>92</sup> As the California Law Revision Commission Comment to section 160 explains, “[t]his definition makes it clear that a reference to ‘law’ includes the law established by judicial decisions.”<sup>93</sup> Just as Evidence Code section 1200 on hearsay refers to “law,” section 802 contains an identical reference.<sup>94</sup> In numerous cases, the California courts have relied on section 160 as a basis for recognizing hearsay exceptions that are not expressly enumerated in the statutes.<sup>95</sup> By the

---

87. CAL. EVID. CODE § 801(b).

88. Imwinkelried, *Developing a Coherent Theory*, *supra* note 56, at 462–65.

89. CAL. EVID. CODE § 801(b).

90. Imwinkelried, *Developing a Coherent Theory*, *supra* note 56, at 462–65.

91. CAL. EVID. CODE § 802.

92. *Id.* § 160.

93. *Id.* § 160 cmt.

94. *Id.* § 802.

95. See *In re Cindy L.*, 947 P.2d 1340, 1347 (Cal. 1997) (explaining that there are some references to “law” that include judicial decisions, as well as constitutional and statutory provisions); *In re Carmen O.*, 33 Cal. Rptr. 2d 848, 855 (Ct. App. 1994) (recognizing a “child

same token, construed in the context of section 160, section 802 authorizes a court to promulgate case law restrictions on an expert's "reasons" or major premise.

### 3. The Extrinsic Legislative History

The California Law Revision Commission Comments to the statutory scheme lead to the twin conclusions that section 801 regulates primarily the expert's minor premise and that the California Supreme Court may prescribe non-statutory limitations on the major premise under section 802.<sup>96</sup> The Comments to section 801 give numerous examples of the type of information that the statute regulates. The Comments include the following passages:

"For example, a physician may rely on statements made to him by the patient concerning the history of his condition."

"A physician may . . . rely on reports and opinions of other physicians."

"An expert on the valuation of real or personal property . . . may rely on inquiries made of others . . . ."

"[A]n expert on automobile accidents may not rely on extrajudicial statements of others as a partial basis as to the point of impact . . . ."

"[A] report of [a] fire ranger as to cause of fire [was] held inadmissible because it was based primarily upon statements made to him by other persons."<sup>97</sup>

The common denominator of the overwhelming majority of the examples set out in the Comments is that they all refer to minor premise information, case-specific data that the expert will evaluate

---

dependency hearsay exception"); EDWARD J. IMWINKELRIED ET AL., CALIFORNIA EVIDENTIARY FOUNDATIONS 410–13 (3d ed. 2000); MIGUEL A. MÉNDEZ, EVIDENCE: THE CALIFORNIA CODE AND THE FEDERAL RULES—A PROBLEM APPROACH 437 (3d ed. 2004) (discussing the need for a hearsay exception).

96. CAL. EVID. CODE § 160 cmt.

97. *Id.* § 801 cmt. (citations omitted).

by invoking a general theory or technique.<sup>98</sup> Indeed, the Comments expressly state that the statutory requirements in section 801(b) are intended to ensure that the expert is adequately acquainted “with the facts of a *particular* case.”<sup>99</sup> The language in section 801(b), beginning with “perceived by,” was never intended to regulate the expert’s major premise.

The Comments go further, expressly disavowing any intent to set out “a detailed statutory rule that lists all” the restrictions on experts.<sup>100</sup> Rather, the Comments state that section 801(b) sets out only “the minimum requisites that must be met in every case.”<sup>101</sup> The Comments elaborate:

[A]n expert may not base his opinion upon any matter that is declared by the constitutional, statutory, or decisional law of this State to be an improper basis for an opinion.<sup>102</sup>

The Comments continue, adding that “the courts . . . are free to continue to develop” non-statutory restrictions on expert testimony so long as they are consistent with the express provisions of the statutes.<sup>103</sup>

#### 4. The Canons or Maxims of Interpretation

On occasion in statutory interpretation, the California courts go beyond text, context, and legislative history and invoke the canons of interpretation. One of the well-settled canons of interpretation in California is that whenever possible, the courts should reject an interpretation that leads to absurd consequences.<sup>104</sup>

The proposed construction of sections 801 and 802 restricting judicial inquiry to only the “type” of method used by an expert would result in such consequences. Consider the following

---

98. *See id.*

99. *Id.* (emphasis added).

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. *See People v. Ledesma*, 939 P.2d 1310, 1313 (Cal. 1997) (“[T]he intent prevails over the letter . . . .”) (citation omitted); *Scottsdale Ins. Co. v. State Farm Mut. Auto. Ins. Co.*, 30 Cal. Rptr. 3d 606, 612 (Ct. App. 2005) (discussing the primary goal of giving effect to the intent of the Legislature and avoiding a literal interpretation that would lead to “an absurd result”); *Pang v. Beverly Hosp., Inc.*, 94 Cal. Rptr. 2d 643, 648 (Ct. App. 2000) (stating that interpretation must be “practical”).

hypothetical, a variation of the facts in *Daubert*. In a pesticide case, the plaintiffs call an epidemiologist as an expert. Preliminarily, the expert testifies along the following lines: there are thirty published studies involving 130,000 patients; every study yielded the finding that the relative risk was only 1.0; the incidence of cancer in the exposed group was no higher than the incidence of the disease in the general population; the expert conducted a metanalysis of the studies; and that metanalysis also yielded the finding that the relative risk is no higher. Yet, based solely on the epidemiological study, the expert is prepared to testify to the validity of the general theory that exposure to the pesticide causes cancer.

Of course, given this data, no reputable epidemiologist would testify to that ultimate opinion.<sup>105</sup> In the face of that foundational testimony, the receipt of that opinion would make the California courts a laughingstock. Yet, a restrictive interpretation seemingly mandates the acceptance of that opinion so long as the expert purports to rely on a proper “type” of research, namely, an epidemiological study.<sup>106</sup> The restrictive interpretation would tie the courts’ hands and preclude them from conducting any substantive review of the expert’s reasoning.

III. THE ENUNCIATION OF CASE “LAW” RULE THAT TRIAL JUDGES  
MUST INQUIRE WHETHER THE PROPONENT’S FOUNDATIONAL  
SHOWING ADEQUATELY SUPPORTS  
“THE REASON[] FOR HIS [OR HER] OPINION.”<sup>107</sup>

A. *The Court Should Ensure the Reliability of All Expert Testimony,  
Not Merely the Instrumental Scientific Testimony*  
Governed by Kelly/Frye

California litigants make very extensive use of expert testimony.<sup>108</sup> As the introduction noted, in a study funded by the Rand Corporation, researchers reviewed 529 California civil trials.<sup>109</sup>

---

105. See Michael D. Green et al., *Reference Guide on Epidemiology*, in REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 333, 348–49 (Fern M. Smith ed., Fed. Judicial Ctr. 2d. 2000) (discussing the relative risk approach).

106. See *id.* at 335–36.

107. CAL. EVID CODE § 802 (West 1995).

108. Gross, *supra* note 1 at 1119.

109. *Id.*

Experts testified in 86 percent of the trials.<sup>110</sup> Only a small minority of the experts testified based on instrumental scientific techniques of the sort governed by *Kelly/Frye*.<sup>111</sup> The vast majority of the trials involved other types of expertise.<sup>112</sup> Thus, the issue posed in the majority of cases is not only recurring; it is of even greater practical importance than the admissibility standards for instrumental scientific techniques as prescribed by *Kelly/Frye*.

There is no justification for confining a substantive review of the expert's reasoning to cases involving testimony governed by *Kelly/Frye*. The statutes themselves make no such distinction. Evidence Code section 801 refers generically to testimony by an "expert."<sup>113</sup> On their face, none of the pertinent Evidence Code provisions is restricted to the species of expertise controlled by *Kelly/Frye*. On expert testimony issues such as those presented in *Kelly* and *Leahy*, the California Supreme Court has mandated an inquiry into the reliability of the theories and techniques underlying instrumental scientific testimony through an examination of the general acceptance of those theories and techniques.<sup>114</sup> If those decisions are still good law, there must be a similar mandate that California trial judges likewise police the reliability of the major premises used by other types of experts. In terms of evidentiary policy, there certainly is no justification to restrict the requirement to instrumental scientific testimony.<sup>115</sup>

As has been noted in previous articles,<sup>116</sup> complaints about "junk science" have tended to overshadow criticism of nonscientific expert

---

110. *Id.*

111. *Id.*

112. *Id.* ("Half of the experts . . . were medical doctors, and an additional 9 percent were other medical professionals—clinical psychologists, rehabilitation specialists, dentists, etc.").

113. CAL. EVID. CODE § 801 (West 1995).

114. *People v. Leahy*, 882 P.2d 321, 325 (Cal. 1994) (stating that theories and techniques "must be sufficiently established to have gained general acceptance in the particular field in which it belongs" (citations omitted)); *People v. Kelly*, 549 P.2d 1240, 1244 (Cal. 1976) (demonstrating reliability "require[s] a preliminary showing of general acceptance of the new technique in the relevant scientific community." (citations omitted)).

115. Miguel A. Méndez, *II. Expert Testimony and the Opinion Rule: Conforming the Evidence Code to the Federal Rules*, 37 U.S.F. L. REV. 411, 421–22, 433 (2003) (discussing that the role of the court is not to determine reliability as a scientific matter).

116. Edward J. Imwinkelried, *The Next Step After Daubert: Developing a Similarly Epistemological Approach to Ensuring the Reliability of Nonscientific Expert Testimony*, 15 CARDOZO L. REV. 2271, 2279–80 (1994) (citations omitted).

testimony, although such evidence is just as suspect.<sup>117</sup> If anything, there is an even greater threat of inaccurate information coming from nonscientific expert testimony than from “junk science” because the very nature of scientific evidence helps to assure a likelihood of accuracy.<sup>118</sup> While scientific evidence can usually be double-checked by other scientists for error or contributing factors,<sup>119</sup> there is generally no such double-check for nonscientific testimony.

*B. Requiring California Trial Judges to Conduct This Inquiry Poses Only a Minimal Threat to the Role and Power of the Petit Jurors.*

By mandating judicial inquiry into the reliability of an expert’s major premise, California would be taking a step in the direction of the federal approach to evaluating the admissibility of expert testimony. However, it must be remembered that even under that federal approach, there are safeguards to protect the jury’s role.<sup>120</sup> A federal judge determining admissibility under Federal Rule 104(a) considers only the foundational testimony. As the Advisory Committee Note to the 2000 amendment to Federal Rule of Evidence 702 emphasizes, even under *Daubert* a federal trial judge is not to determine whether the expert’s ultimate opinion itself is “correct.”<sup>121</sup> The California Supreme Court can put the same safeguards in place in California.

Moreover, in conducting the proposed inquiry under the Evidence Code, a California trial judge would be playing a much narrower role than the role assigned to federal judges under *Daubert*. In *Daubert*, the Court expressly stated that Federal Rule of Evidence 104(a) governs the judge’s determination as to whether the proponent has proven by a preponderance of the evidence that the expert has validated his or her theory or technique by sound

---

117. See Phylis S. Bamberger, *The Dangerous Expert Witness*, 52 BROOK L. REV. 855 (1986).

118. See Edward J. Imwinkelried, *A Comparative Law Analysis of the Standard for Admitting Scientific Evidence: The United States Stands Alone*, 42 FORENSIC SCI. INT’L 15, 23 (1989).

119. See generally 2 PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, SCIENTIFIC EVIDENCE at ch. 15, 25 (2d ed. 1993) (examining the requirements and background of the presentation of scientific evidence).

120. See Imwinkelried, *Developing a Coherent Theory*, *supra* note 56, at 462–65.

121. FED. R. EVID. 702 advisory committee’s note.

scientific methodology.<sup>122</sup> When a federal judge determines the existence of a foundational fact under Rule 104(a), “the judge acts as trier of fact . . . . If the question is factual in nature, the judge will of necessity receive evidence pro and con on the issue.”<sup>123</sup> When the proponent and opponent submit conflicting testimony about the disputed foundational fact, a federal trial judge can consider the credibility of the testimony and resolve the dispute on the basis of a credibility determination.<sup>124</sup> In *Huddleston v. United States*,<sup>125</sup> the Supreme Court contrasted rules 104(a) and 104(b) by stating that under the latter statute the trial judge does not “weigh[] credibility.”<sup>126</sup>

In the *Lockheed Litigation Cases*, the trial judge barred Dr. Teitelbaum’s testimony, which was squarely based on a 1989 study.<sup>127</sup> The trial judge did not preclude the testimony because the respondents had submitted competing studies reaching conflicting findings, which the judge found more convincing than the 1989 study.<sup>128</sup> Rather, the judge focused solely on the study cited by Dr. Teitelbaum and found that it furnished inadequate support for his theory that exposure to the five chemicals supplied by Exxon and Unocal causes cancer.<sup>129</sup> The trial judge’s ruling was not based on a credibility determination. As Justice Kitching explained in the appellate court’s opinion:

The 1989 study reviewed epidemiological studies of painters who potentially were exposed to more than 130 different chemicals and other substances . . . . Dr. Teitelbaum acknowledged that some of the chemicals the subjects were exposed to were known carcinogens . . . . The study showed that painters who potentially were exposed to a long list of more than 130 substances and thousands of chemical compounds contracted cancer at a rate greater than the national average. The study did not

---

122. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592–93 (1993).

123. FED. R. EVID. 104(a) advisory committee’s note (amended 2000).

124. *In re Unisys Sav. Plan Litig.*, 173 F.3d 145, 156 (3d Cir. 1999).

125. 485 U.S. 681 (1988).

126. *Id.* at 690.

127. *In re Lockheed Litig. Cases*, 10 Cal. Rptr. 3d 34, 36 (Ct. App. 2004).

128. *Id.* at 38.

129. *Id.*

indicate, however, whether persons exposed to only the five chemicals supplied by Exxon and Union Oil contracted cancer at a rate greater than the national average, because the study subjects were exposed to many other chemicals, including known carcinogens. Dr. Teitelbaum's opinion . . . therefore was based on conjecture and speculation . . . .<sup>130</sup>

To borrow a phrase from the United States Supreme Court's decision in *General Electric Co. v. Joiner*,<sup>131</sup> Dr. Teitelbaum's theory was connected to the existing data in the 1989 study only by the "ipse dixit of the expert."<sup>132</sup> A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.<sup>133</sup> When the "connection" between the data and the opinion is the expert's conjecture or speculation, the foundation is inadequate. Permitting this sort of limited judicial inquiry will not imperil the independence or power of California jurors.

#### IV. CONCLUSION

To be candid, the language of the Evidence Code is less than crystal clear. Quite frankly, the Law Revision Commission's reports suggest that the drafters did not fully appreciate either (1) the diversity of types of expertise, or (2) the fundamental distinction between an expert's general theory or technique (his or her major premise) and the case-specific data that the expert considers (the minor premise). Nevertheless, as this Article demonstrates, the text of the Evidence Code is amenable to a sensible interpretation. Again, the key provision is section 802.<sup>134</sup>

On its face, the major clause in section 801(b) may be limited to the "matter" on which the opinion is based, but section 802 refers to both that type of information and "the reasons for his opinion."<sup>135</sup> In light of the broader wording of section 802, it is necessary to recognize the important distinction between the expert's major and minor premises. Further, while section 801(b) strictly limits the judicial inquiry to whether the expert is relying on a reasonable

---

130. *Id.*

131. 522 U.S. 136 (1997).

132. *Id.* at 146.

133. *Id.*

134. CAL. EVID CODE § 802 (West 1995).

135. *Id.*



“type” of information, there is no such limitation in section 802. Section 802 thus authorizes a more probing judicial inquiry into the expert’s major premise. Finally, section 802 expressly recognizes that the “law” may preclude an expert from relying on a particular “reason” for an opinion. In light of the statutory definition of “law” in section 160,<sup>136</sup> a court unquestionably has the power to render decisions such as *Venegas*<sup>137</sup> and prescribe non-statutory limitations on the expert’s major premise.

As the Rand study documents,<sup>138</sup> the type of instrumental scientific evidence governed by *Kelly/Frye* and *Venegas* represents only a small percentage of the expert testimony presented in California courtrooms. It is equally clear that other species of expert testimony can pose the same dangers of unreliability as instrumental scientific evidence. Thus, under section 802, trial judges may, and must, determine whether, as a matter of logic, the studies and other information cited by experts adequately support the conclusion that the expert’s general theory or technique is valid.

California trial judges are competent to conduct this type of circumscribed inquiry into the sufficiency of the foundational testimony supporting an expert’s major premise. We routinely permit California trial judges to make analogous evaluations. For example, trial judges evaluate the sufficiency of evidence on the historical merits in the context of pretrial summary judgment motions and directed verdict motions at trial. Those determinations have an even greater impact on the outcome of the case. Those determinations entail evaluations of the substantive evidence on the merits of the case, not merely foundational testimony. Furthermore, those decisions can have far more drastic procedural consequences. California trial judges are also equal to the task of conducting a critical inquiry into the sufficiency of expert foundational testimony. After all, as the late Sir Karl Popper himself remarked, the scientific method is essentially “commonsense writ large.”<sup>139</sup>

---

136. *Id.* § 160.

137. 954 P.2d 525 (Cal. 1998).

138. Gross, *supra* note 1 at 1119.

139. KARL POPPER, THE LOGIC OF SCIENTIFIC DISCOVERY 22 (1959).

